

Table 5 - Comparative Ultimate Test Values

Composite Description	Density	Plastic %	Bending Strength (MOR)	Bending Stiffness (MOE)
Cement Fiber Board (HardiBacker - 1/4" thick) <sup>4</sup>	94 pcf	-----	2100 psi (2550 psi) <sup>8</sup>	570 ksi <sup>8</sup>
Portland Cement Board (WonderBoard - 1/4" thick) <sup>8</sup>	98 pcf	-----	>1500 psi (2780 psi) <sup>8</sup>	335 ksi <sup>8</sup>
Portland Cement Board (WonderBoard - 1/2" thick) <sup>8</sup>	72 pcf	-----	>900 psi	N.A.
USDA, Forest Product Laboratory, melt blended HDPE and hammer-milled random oriented juniper chips, no additives <sup>5</sup>	52 pcf	30%	3060 psi	226 ksi
<b>INVENTION</b> - Composite HDPE and parallel orientated, zoned, Juniper particles, no additives <sup>6</sup>	52 pcf	40%	4620 psi	530 ksi
<b>INVENTION</b> - Composite HDPE and random placed Juniper wood particles, no additives <sup>10</sup>	52 pcf	50%	3200 psi	340 ksi
<b>INVENTION</b> - Composite HDPE and random placed Juniper particles, 2% MAPP <sup>10</sup>	52 pcf	50%	5100 psi	510 ksi
Trex <sup>TM</sup> Composite, 50% PE, 50% wood (dust sized particles), extruded, no additives <sup>7</sup>	62 pcf	50%	1420 psi	175 ksi
Strandex <sup>TM</sup> Composite, 50% PE, 50% wood (dust sized particles), extruded, cross-linking additive <sup>8</sup>	68 pcf	50%	2100 psi	504 ksi
Strandex <sup>TM</sup> Composite, 50% PVC, 50% wood (dust sized particles), extruded, plasticizer additive <sup>12</sup>	85 pcf	50%	5350 psi	945 ksi
Oriented Strand Board <sup>9</sup>	45 pcf	5-10%	3500 psi	950 ksi
Medium Density Fiberboard <sup>13</sup>	45 pcf	5-10%	3480 psi	350 ksi
Particle Board (M2) <sup>13</sup>	45 pcf	4-10%	2100 psi	320 ksi

<sup>4</sup>Values based on Rycair Inc. internal testing (Report # 5000-99-TR-12-99-01-WR). Published values for 1/4" & 1/2" thick HardiBacker are MOR=2100 psi, 1/4" thick WonderBoard MOR=> 1500 psi, and for 1/2" thick WonderBoard MOR = >900 psi. No MOE values for these products are readily available (see [www.jameshardie.com](http://www.jameshardie.com) and [www.unifxinc.com](http://www.unifxinc.com) and appendix).

<sup>5</sup>Values supplied by the USDA, Forest Products Laboratory. For extruded, higher plastic content, and whole tree values see Appendix.

<sup>6</sup>Rycair Inc. internal test reports; Reference Numbers: 3020-95-TR-05-95-01-WR, 3010-98-TR-05-98-01-R/S, 3220-99-TR-12-99-01-WR, 3020-00-TR-02-00-01-WR

<sup>7</sup>Trex decking NER-508 report from [www.trex.com](http://www.trex.com)

<sup>8</sup>Strandex composite values from [www.comptrusion.com/Strandex](http://www.comptrusion.com/Strandex)

<sup>9</sup>Wood Handbook, USDA, Forest Products Laboratory, 1999, Forest Products Society

Exhibit C